

**ABSTRACT OF THE DISCLOSURE**

The invention is a Kalman filtering technique employing an adaptive measurement variance estimator. The invention includes a signal filtering mechanism, comprising a Kalman filter and a variance estimator. The variance estimation used in the filtering includes  
5 estimating the variance of the measured quantity signal and generating the variance estimate signal for use in filtering the input signal and the measured quantity signal, wherein estimating the variance of the measured quantity signal includes determining a smoothed estimate of the measured quantity's variance from the measured quantity signal. The invention also manifests itself as a method for filtering and estimating, a program storage  
10 medium encoded with instructions that, when executed by a computer, performs such a method, an electronic computing device programmed to perform such a method, and a transmission medium over which the method is performed.